

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
HIGHWAY DIVISION 6

# PLANS

**Letting Date: April 6, 2022**

**CONTRACT ID: DF00304**

**TIP NO.: -----**

**FEDERAL AID NO.: STATE FUNDED**

**WBS ELEMENT NO.: 2022CPT.06.15.10781.1**

**ROUTE NO.: NC 41 & NC 71**

**LOCATION: VARIOUS**

**COUNTY: ROBESON**

**LENGTH OF PROJECT: 14.8 MILES**

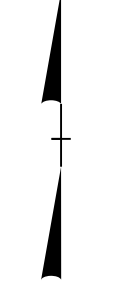
**TYPE OF WORK: RESURFACING, MILLING, & PVT. MKGS.**

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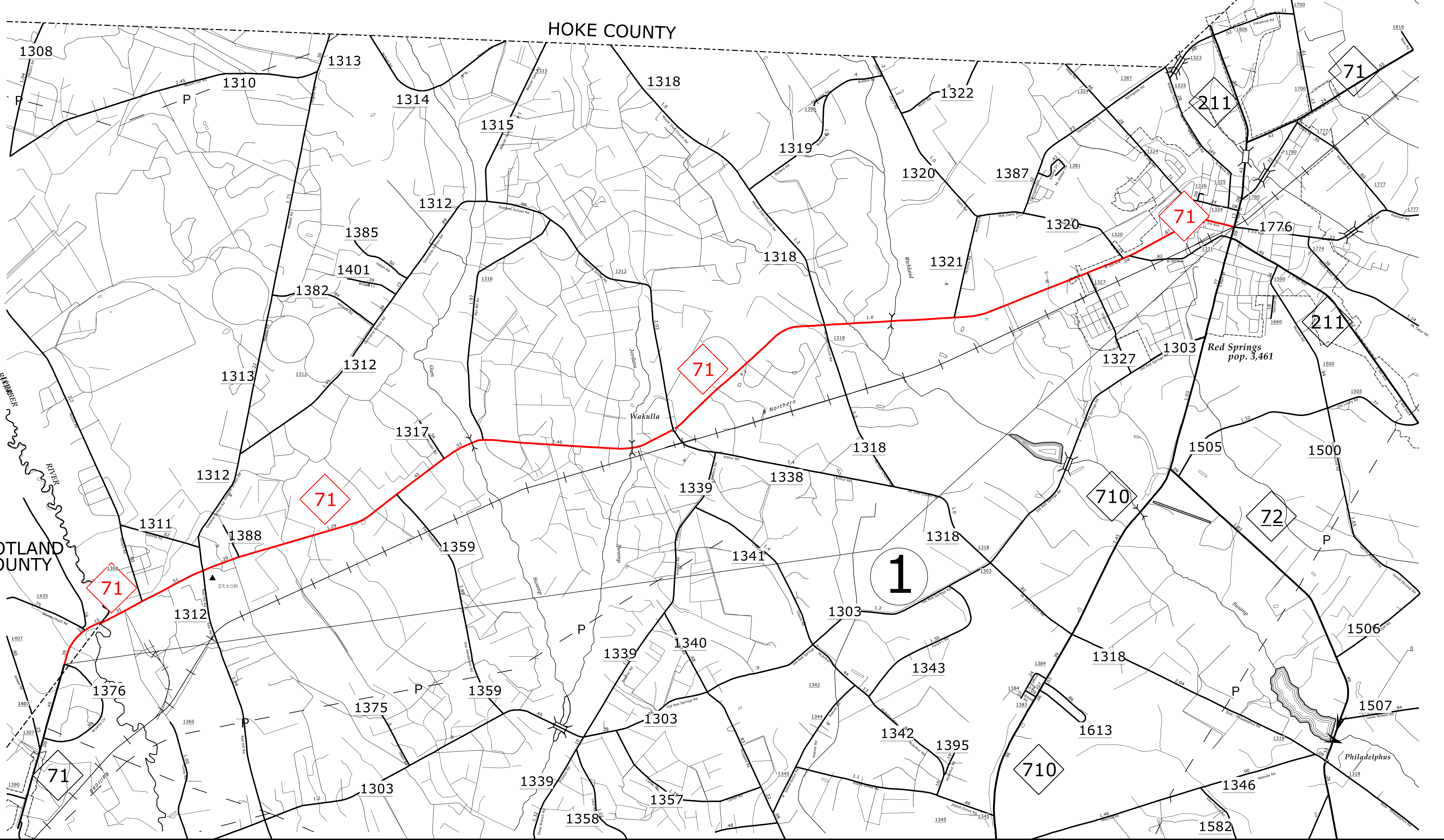




ROBESON COUNTY RESURFACING SPRING 2022

HOKE COUNTY

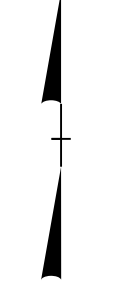
SCOTLAND COUNTY



REVISIONS

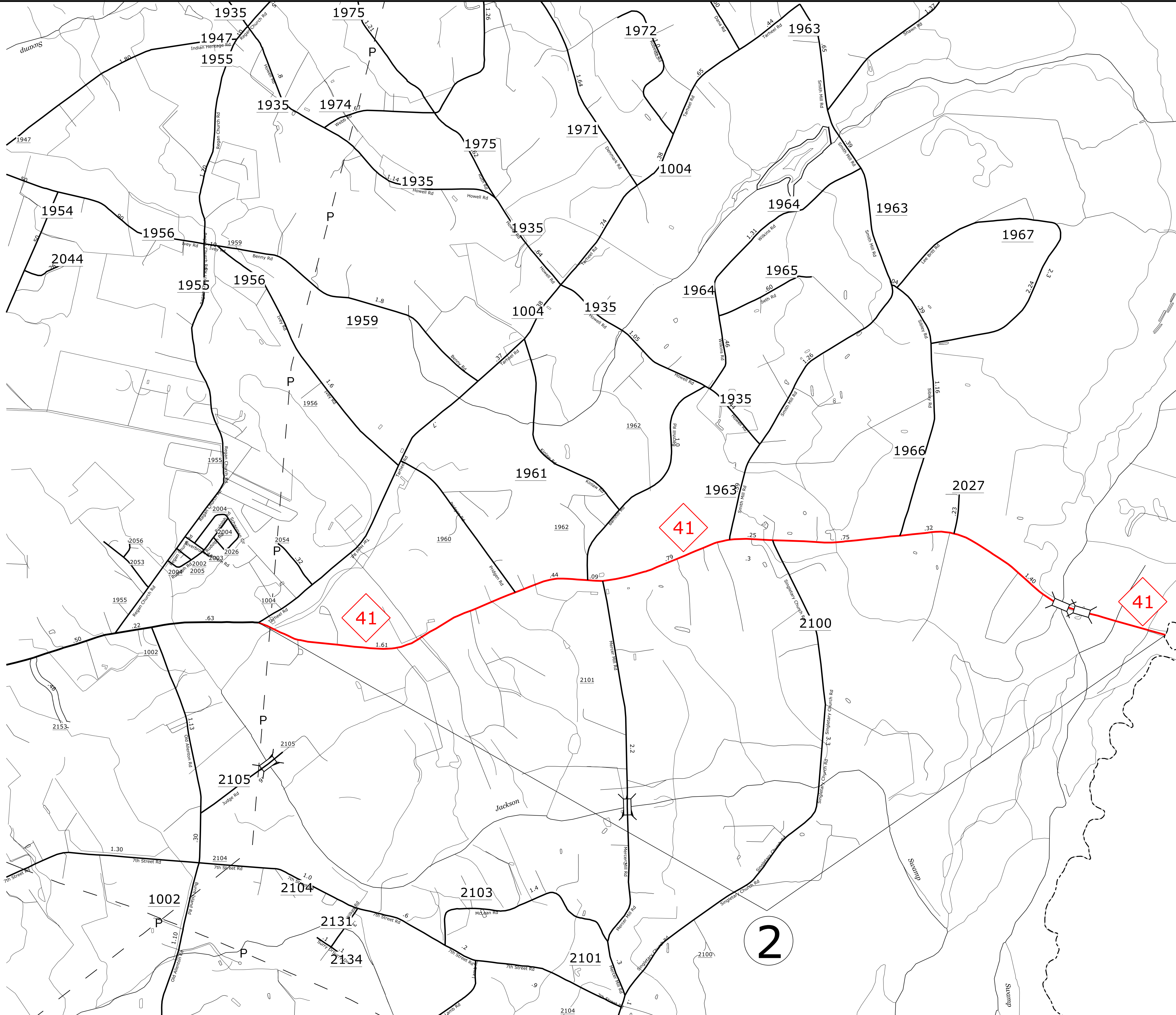
8/17/99  
0-15-FEB-2022 6:53 AM Work Files\Projects\Resurfacing\2022\_Spring\DWG\ROBESON\_MS\_ENG.dgn  
Author: A1111065-24318  
Scale: 1:1





# ROBESON COUNTY RESURFACING SPRING 2022

BLADEN COUNTY



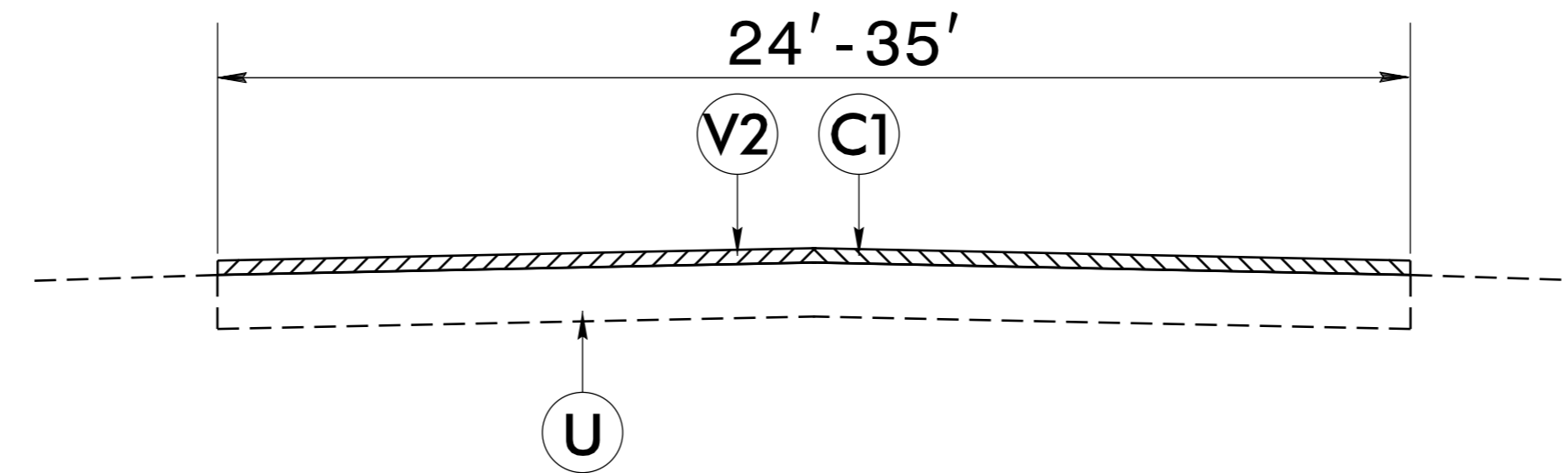
REVISIONS

8/17/99  
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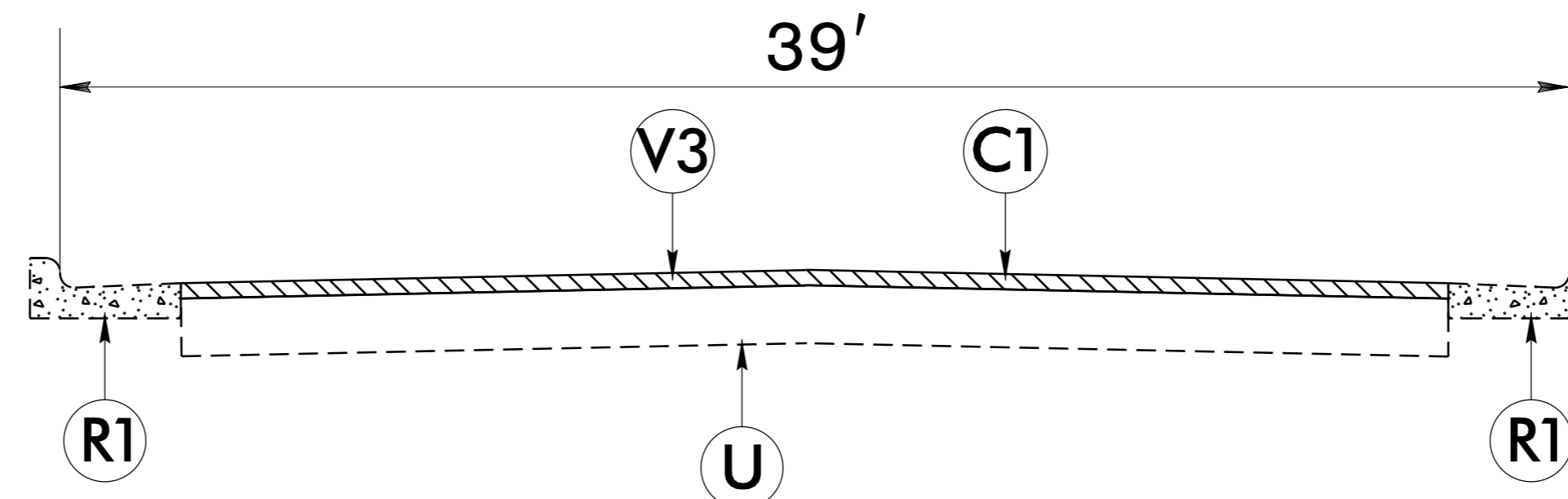
2

# PAVEMENT SCHEDULE

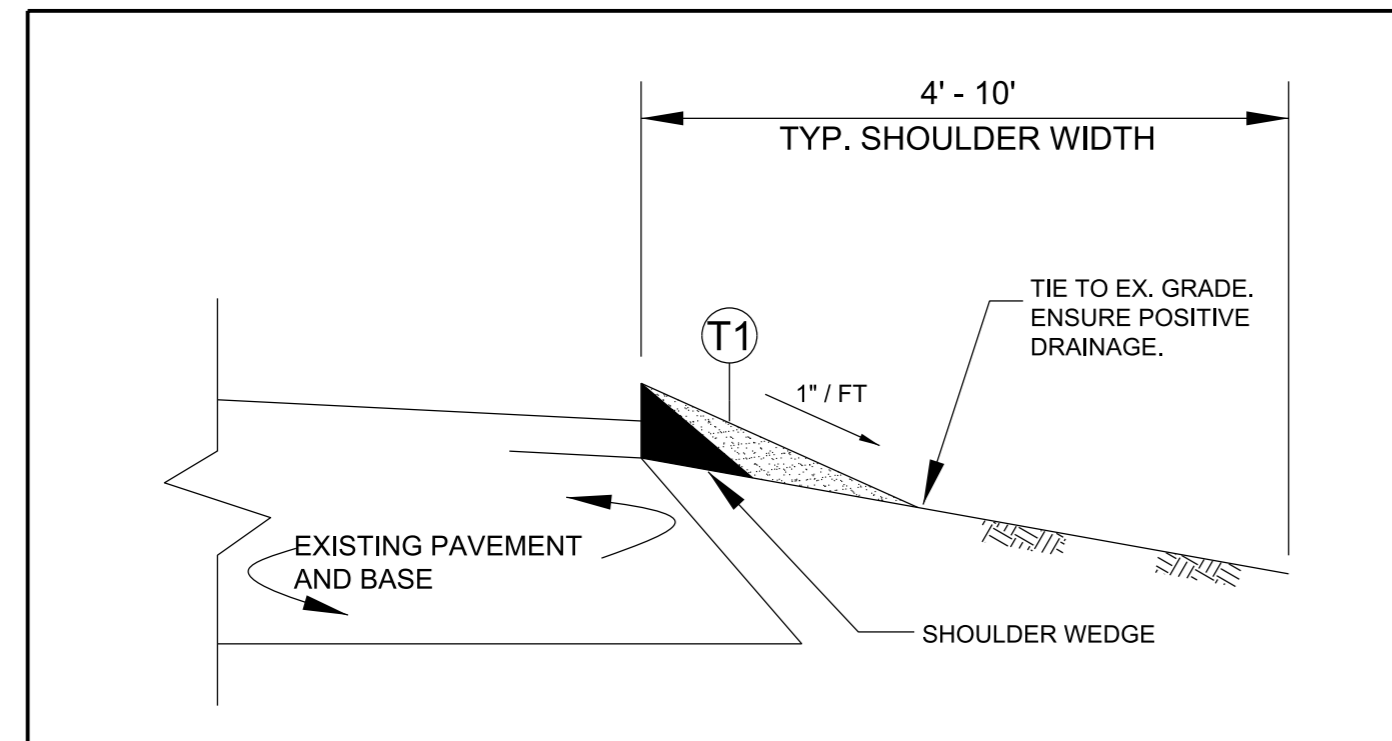
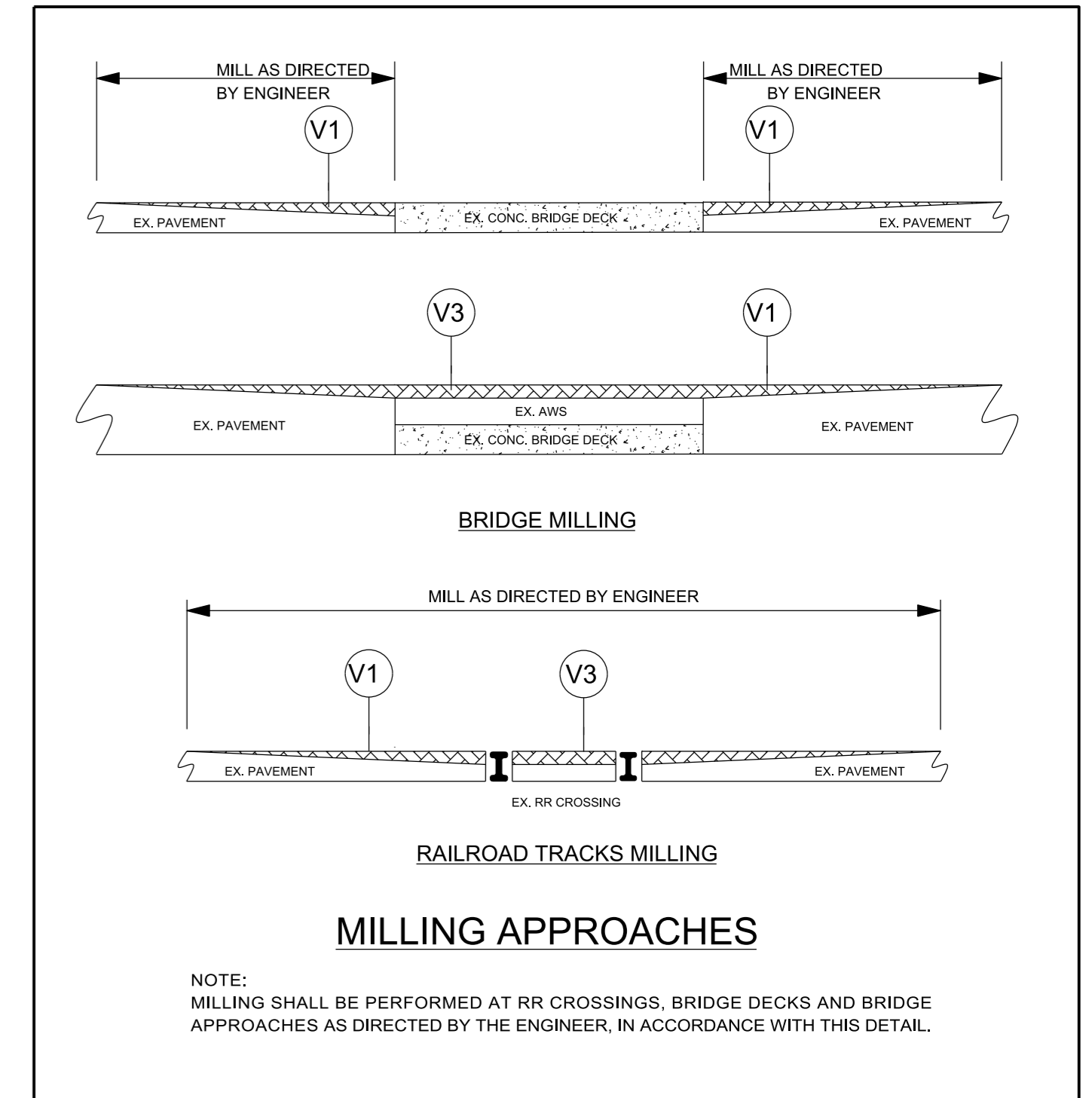
|    |   |
|----|---|
| C1 | 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| R1 | EXISTING CURB AND GUTTER  |
| U  | EXISTING ASPHALT PAVEMENT   |
| V1 | 0"-1½" MILLING  |
| V2 | ½" MILLING  |
| V3 | 1½" MILLING   |



TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 2



## SHOULDER RECONSTRUCTION

**NOTES:**

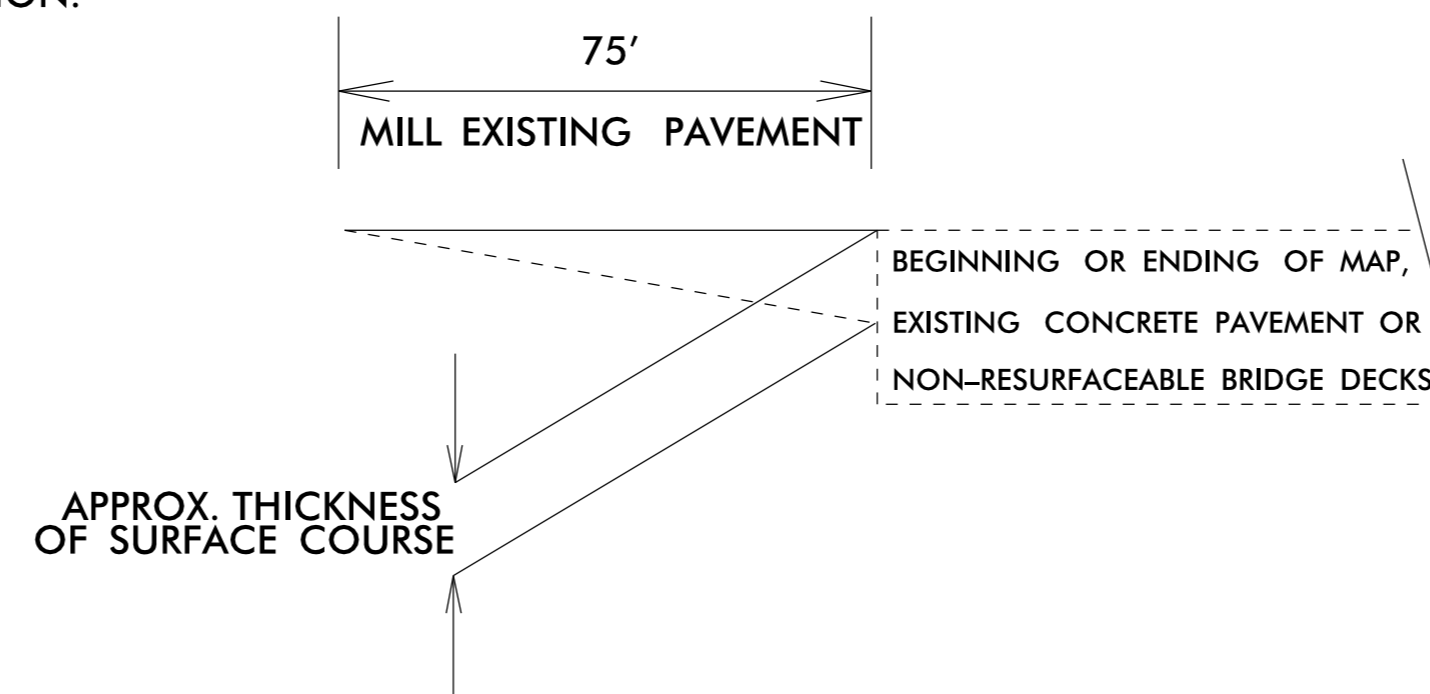
- SHOULDER SHALL BE RECONSTRUCTED AS SHOWN IN STD. DWG. NO. 560.01 & 560.02, WITH A MINIMUM SLOPE OF 1" PER FOOT TO ENSURE POSITIVE DRAINAGE AWAY FROM ROADWAY.
- AGGREGATE SHOULDER BORROW (ASB) MATERIAL SHALL BE PLACED USING A WIDENING MACHINE OR SIMILAR DEVICE AND COMPACTED USING A ROLLER ASB SHALL TIE FLUSH TO PAVEMENT AND EXISTING SHOULDER.

**NOTES TO CONTRACTOR**

FOR SURFACE MIXES OVER 1" IN THICKNESS, MILL THE EXISTING PAVEMENT IN ACCORDANCE WITH THE FOLLOWING SKETCH AS DIRECTED BY THE ENGINEER.

LOCATIONS SHALL INCLUDE TIES INTO EXISTING CONCRETE PAVEMENT, AT BRIDGE APPROACHES WHERE THE BRIDGE WILL NOT BE RESURFACED, AND AT THE BEGINNING AND ENDING POINT OF EACH RESURFACING MAP.

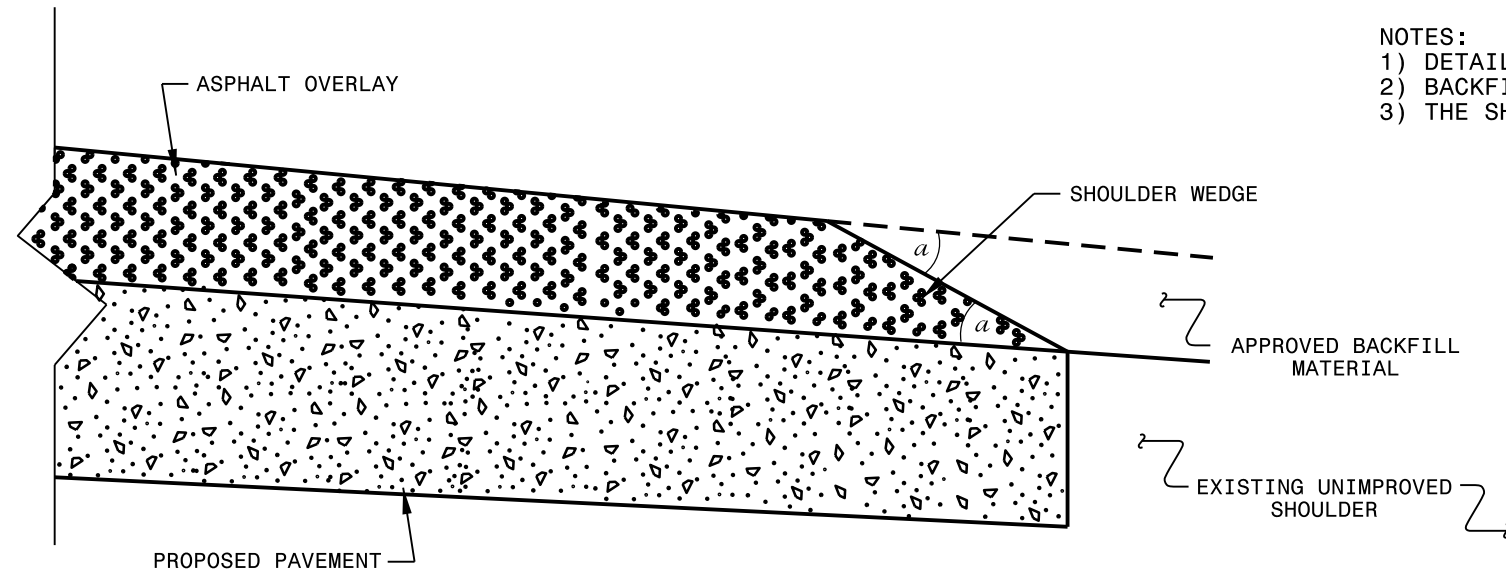
PERFORM THE WORK IN ACCORDANCE WITH SECTION 607 OF THE JANUARY 2012 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. RESURFACING WILL BE ACCOMPLISHED AT THE SAME TIME AS THE MILLING OPERATION.



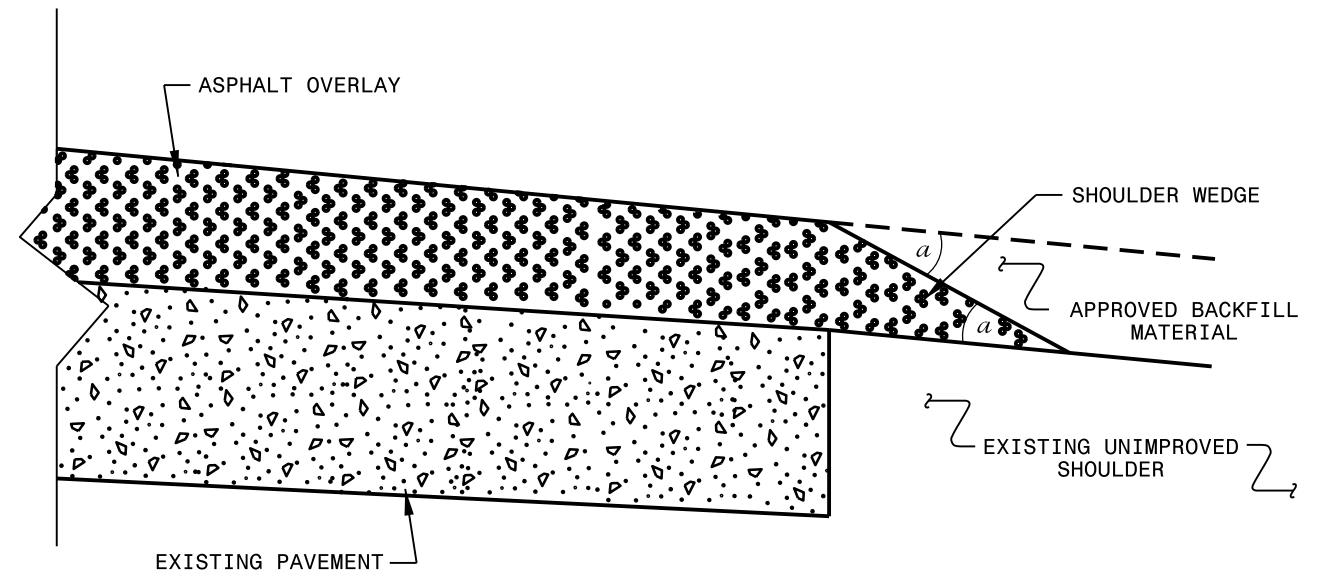
MILLING AT PAVEMENT TIE-INS DETAIL

6/2/99 15-MAR-2022 08:07 (work Files\Projects\Resurfacing\2022 Spring\01\C1\typ.dgn 3333135710781.1.dwg)

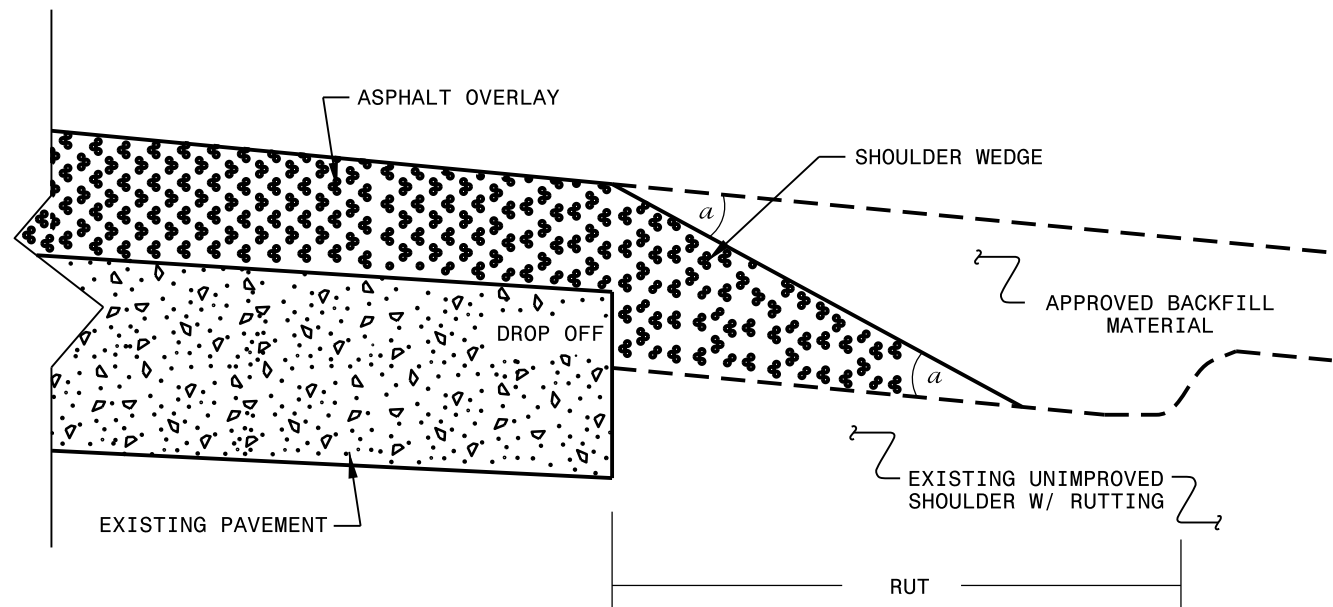
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFc AND ULTRA-THIN BONDED WEARING COURSE.
  - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
  - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



**SHOULDER WEDGE DETAIL**  
(Resurfacing Projects w/ Widening or  
with Existing Paved Shoulder having no dropoffs)



**SHOULDER WEDGE DETAIL**  
(Resurfacing Projects w/ NO Widening)



**SHOULDER WEDGE DETAIL**  
(Resurfacing Adjacent to  
Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

|  |                  |
|--|------------------|
| <b>CONTRACT STANDARDS<br/>AND DEVELOPMENT UNIT</b>     |                  |
| Office 919-707-6950                                    | FAX 919-250-4119 |
| <b>SHOULDER WEDGE<br/>DETAILS</b>                      |                  |
| ORIGINAL BY: T.SPELL                                   | DATE: 7-19-11    |
| MODIFIED BY:   | DATE: 10/16/12   |
| CHECKED BY:  | DATE:            |
| FILE SPEC.: susr/details/stand/shoulderwedgedetail.dgn |                  |

SYSTEMS DESIGN  
USER NAME

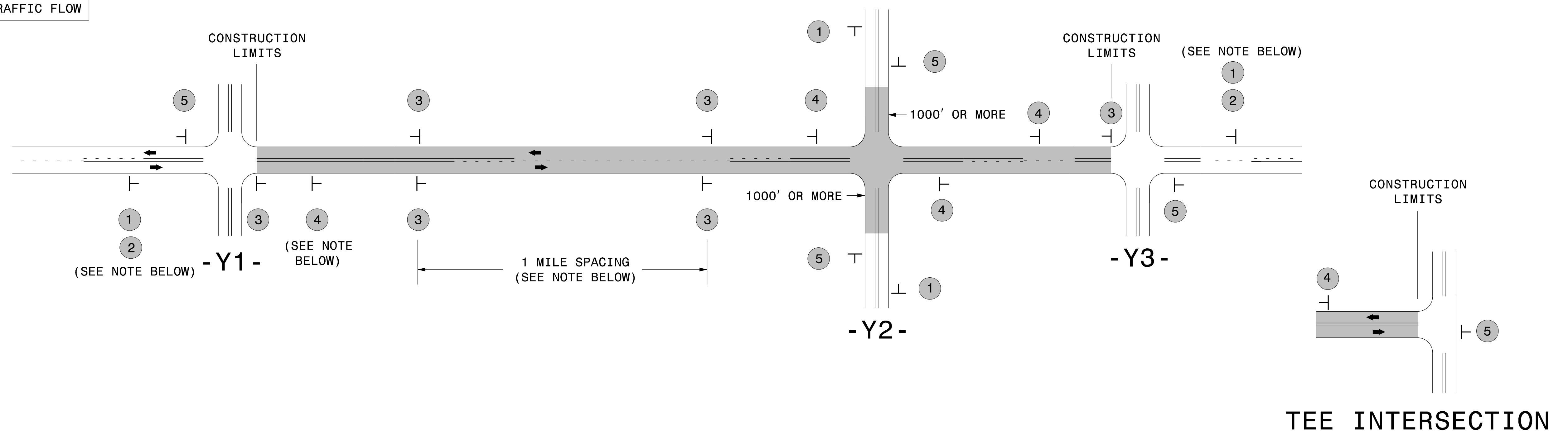


# SIGNING FOR RESURFACING PROJECTS

**LEGEND**

┆ STATIONARY SIGN

← DIRECTION OF TRAFFIC FLOW



## MAINLINE (-L-) SIGNING

## -Y- LINE SIGNING

|  |   |   |   |  |
|--|---|---|---|--|
| <b>SIGNING NOTES AND<br/>PLACEMENT PER DIRECTION</b> | 1 | <br><small>W20-1<br/>48" X 48"</small>                        | PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.  |  |
|  | 2 | <br><small>NEXT<br/>XX MILES<br/>W7-3aP<br/>24" X 18"</small> | #2 SIGN ONLY USED WHEN CONSTRUCTION LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)   |  |
|  | 3 | <br><small>SP 13107<br/>48" X 48"</small>                     | - PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACE 1 MILE APART THEREAFTER.<br>- AT TEE INTERSECTIONS INSTALL INITIALLY 1/2 MILE FROM INTERSECTION AND SPACE 1 MILE APART THEREAFTER.   |  |
|  | 4 | <br><small>SP 13106<br/>48" X 48"</small>                     | - THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS.<br>- DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS.<br>- INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE.<br>- FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH.<br>- A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.<br>- FOR TEE INTERSECTIONS, INSTALL WITHIN 500' +/- OF THE INTERSECTION ALONG -L- LINE. |  |
|  | 5 | <br><small>G20-2 A<br/>48" X 24"</small>                      | PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS OR AS SHOWN WHEN WORK ENDS AT A 3-WAY TEE INTERSECTION.   |  |

NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:

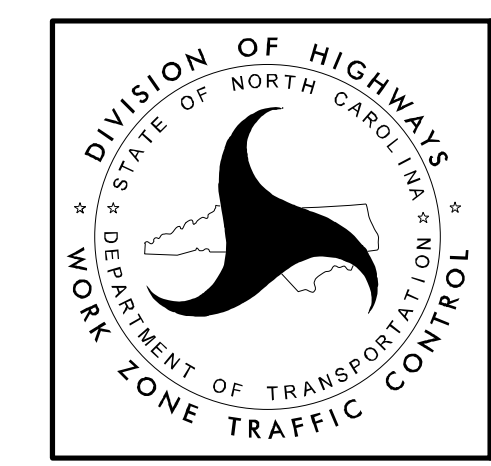
- 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE
- 2) SUBDIVISION ROADS
- 3) DEAD END ROADS

WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, PORTABLE ADVANCE WARNING SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.

|  |  |
|--|--|
| <br><small>W20-1<br/>48" X 48"</small><br>PLACED 500' IN ADVANCE OF FLAGGER. | <br><small>W20-7 A<br/>48" X 48"</small><br>PLACED 250' IN ADVANCE OF FLAGGER. |
|--|--|

### MAPS LESS THAN 2 MILES

FOR RESURFACING MAPS WITH CONSTRUCTION LIMITS LESS THAN 2 MILES IN LENGTH, NO STATIONARY SIGNS ARE REQUIRED. USE PORTABLE "ROAD UNDER CONSTRUCTION" OR "ROAD WORK AHEAD" SIGNS IN LIEU OF STATIONARY ADVANCE WARNINGS SIGNS.



**ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN 2-LANE ROADWAY RESURFACING**

### GUIDELINES FOR LANE WIDTHS ON RESURFACING PROJECTS

Contractor shall place the new pavement markings in accordance with this table and detail unless otherwise directed by the Engineer.

| <b>TWO LANE - TWO WAY ROADWAY - 55 MPH</b> |            |                |
|--|------------|----------------|
| ROADWAY WIDTH                              | LANE WIDTH | SHOULDER WIDTH |
| 18'  | 9' *       | 0'             |
| 20'  | 10' *      | 0'             |
| 22'  | 10'        | 1'             |
| 24'  | 10'        | 2'             |
| 26'  | 11'        | 2'             |
| 28'  | 12'        | 2'             |
| 32'  | 12'        | 4'             |

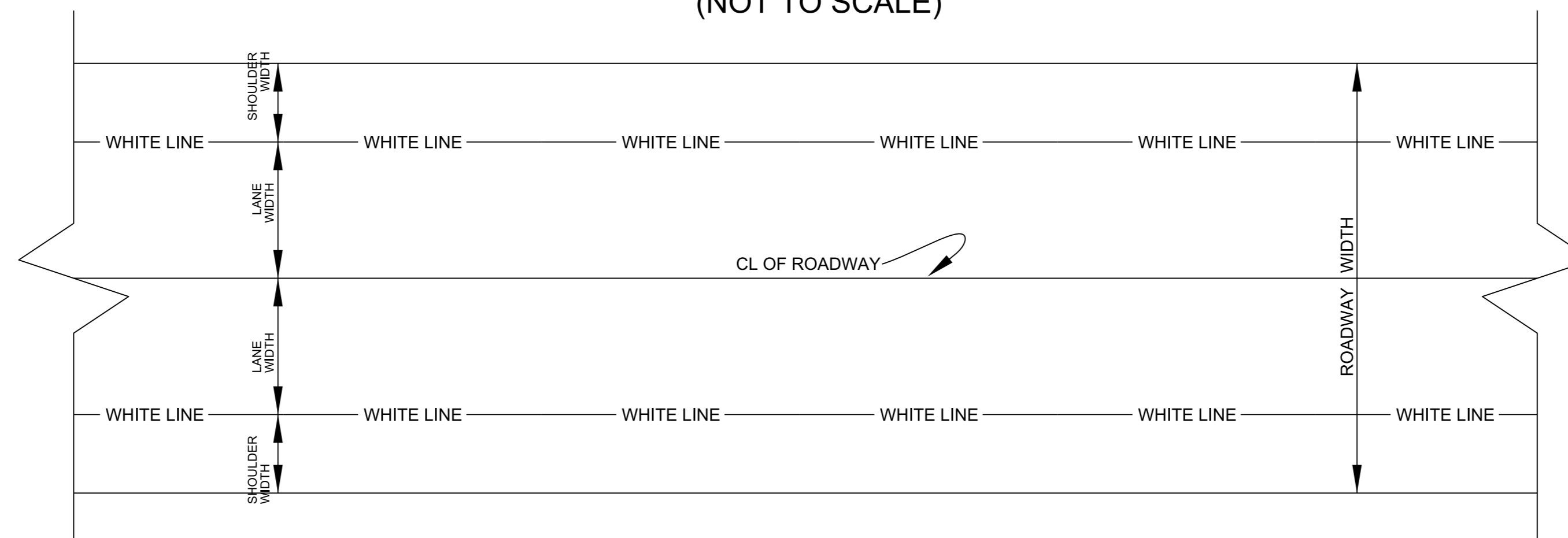
\* May vary due to pavement width

| <b>TWO LANE - TWO WAY ROADWAY</b> |            | <b>50</b>      |
|-----------------------------------|------------|----------------|
| <b>MPH OR LESS</b>                |            |                |
| ROADWAY WIDTH                     | LANE WIDTH | SHOULDER WIDTH |
| 18'                               | 9' *       | 0'             |
| 20'                               | 10' *      | 0'             |
| 22'                               | 10'        | 1'             |
| 24'                               | 10'        | 2'             |
| 26'                               | 11'        | 2'             |
| 28'                               | 11'        | 3'             |
| 32'                               | 11'        | 5'             |

\* May vary due to pavement width

### SCHEMATIC OF ROADWAY

(NOT TO SCALE)





# SUMMARY OF QUANTITIES

|   |         |        |           |                                      |        |       |           |                                |                           |              |    |                       | PROJECT NO.           | SHEET NO.    | TOTAL NO.             |                              |
|---|---------|--------|-----------|--------------------------------------|--------|-------|-----------|--------------------------------|---------------------------|--------------|----|-----------------------|-----------------------|--------------|-----------------------|------------------------------|
|   |         |        |           |                                      |        |       |           |                                |                           |              |    |                       | 2022CPT.06.15.10781.1 |              |                       |                              |
|   |         |        |           |                                      |        |       |           |                                |                           |              |    |                       | 1220000000-E          | 1297000000-E | 1523000000-E          | 1575000000-E                 |
| PROJECT NO                                      | COUNTY  | MAP NO | ROUTE     | DESCRIPTION                          | TYP NO | LANES | LANE TYPE | FINAL SURFACE TESTING REQUIRED | WARM MIX ASPHALT REQUIRED | LENGTH       |    | INCIDENTAL STONE BASE | 0.5" MILLING          | 1½" MILLING  | SURFACE COURSE, S9.5C | ASPHALT BINDER FOR PLANT MIX |
|   |         |        |           |                                      |        |       |           |                                |                           | MI           | FT |                       | TONS                  | SY           | SY                    | TONS                         |
| 2022CPT.06.15.10781.1                           | Robeson | 1      | NC 71 - A | SCL (MP 2.33) TO MP 11.35            | 1      | 2     | 2WU       | NO                             | NO                        | 9.02         | 24 | 50                    | 127,002               |              | 11,260                | 676                          |
|   |         | 1      | NC 71 - B | MP 11.35 TO MP 12.05                 | 1      | 2     | 2WU       | NO                             | NO                        | 0.70         | 35 | 50                    | 14,373                |              | 1,272                 | 76                           |
|   |         | 1      | NC 71 - C | MP 12.05 TO NC 211 (MP 12.13)        | 2      | 2     | 2WU       | NO                             | NO                        | 0.08         | 39 |                       |                       | 1,830        | 162                   | 10                           |
| <b>TOTAL FOR MAP NO. 1</b>                      |         |        |           |                                      |        |       |           |                                |                           | <b>9.80</b>  |    | <b>100</b>            | <b>141,375</b>        | <b>1,830</b> | <b>12,694</b>         | <b>762</b>                   |
| 2022CPT.06.15.10781.1                           | Robeson | 2      | NC 41     | FROM CJ EAST OF SR 1004 TO BLADEN CL | 1      | 2     | 2WU       | NO                             | NO                        | 5.00         | 28 | 50                    | 82,133                |              | 7,277                 | 437                          |
| <b>TOTAL FOR MAP NO. 2</b>                      |         |        |           |                                      |        |       |           |                                |                           | <b>5.00</b>  |    | <b>50</b>             | <b>82,133</b>         |              | <b>7,277</b>          | <b>437</b>                   |
| <b>TOTAL FOR PROJ NO. 2022CPT.06.15.10781.1</b> |         |        |           |                                      |        |       |           |                                |                           | <b>14.80</b> |    | <b>150</b>            | <b>223,508</b>        | <b>1,830</b> | <b>19,971</b>         | <b>1,199</b>                 |
|   |         |        |           |                                      |        |       |           |                                |                           |              |    |                       | <b>225,338</b>        |              |                       |                              |
| <b>GRAND TOTAL</b>                              |         |        |           |                                      |        |       |           |                                |                           | <b>14.80</b> |    | <b>150</b>            | <b>223,508</b>        | <b>1,830</b> | <b>19,971</b>         | <b>1,199</b>                 |
|   |         |        |           |                                      |        |       |           |                                |                           |              |    |                       | <b>225,338</b>        |              |                       |                              |

# THERMOPLASTIC AND PAINT QUANTITIES

|   |         |        |           |   |        |       |           |              |    |   | PROJECT NO.                     |                              | SHEET NO.                     | TOTAL NO.                    |                                |                    |                                 |    |
|---|---------|--------|-----------|---|--------|-------|-----------|--------------|----|---|---------------------------------|------------------------------|-------------------------------|------------------------------|--------------------------------|--------------------|---------------------------------|----|
|   |         |        |           |   |        |       |           |              |    |   | 2022CPT.06.15.10781.1           |                              |                               |                              |                                |                    |                                 |    |
|   |         |        |           |   |        |       |           |              |    |   | 4413000000-E                    | 4457000000-N                 | 4685000000-E                  |                              | 4695000000-E                   | 4700000000-E       | 4720000000-E                    |    |
| PROJECT NO                                      | COUNTY  | MAP NO | ROUTE     | DESCRIPTION                             | TYP NO | LANES | LANE TYPE | LENGTH       |    | WORK ZONE<br>ADVANCE/GENERAL<br>WARNING SIGNING | TEMPORARY<br>TRAFFIC<br>CONTROL | 4" X 90 M<br>WHITE<br>THERMO | 4" X 90 M<br>YELLOW<br>THERMO | 8" X 90 M<br>WHITE<br>THERMO | 12" X 90 M<br>YELLOW<br>THERMO | THERMO<br>RXR 90 M | THERMO<br>MSG<br>SCHOOL<br>90 M |    |
|   |         |        |           |   |        |       |           | MI           | FT |   |                                 |                              |                               |                              |                                |                    |                                 | SF |
| 2022CPT.06.15.10781.1                           | Robeson | 1      | NC 71 - A | SCL (MP 2.33) TO MP 11.35               | 1      | 2     | 2WU       | 9.02         | 24 | 1,010   | 1                               | 103,688                      | 93,265                        | 435                          | 960                            |                    |                                 |    |
|   |         | 1      | NC 71 - B | MP 11.35 TO MP 12.05                    | 1      | 2     | 2WU       | 0.70         | 35 | 78  |                                 |                              |                               |                              | 2                              |                    |                                 |    |
|   |         | 1      | NC 71 - C | MP 12.05 TO NC 211 (MP 12.13)           | 2      | 2     | 2WU       | 0.08         | 39 | 126   |                                 |                              |                               |                              |                                |                    |                                 |    |
| <b>TOTAL FOR MAP NO. 1</b>                      |         |        |           |   |        |       |           | <b>9.80</b>  |    | <b>1,214</b>                                    | <b>1</b>                        | <b>103,688</b>               | <b>93,265</b>                 | <b>435</b>                   | <b>960</b>                     | <b>2</b>           |                                 |    |
| 2022CPT.06.15.10781.1                           | Robeson | 2      | NC 41     | FROM CJ EAST OF SR 1004 TO<br>BLADEN CL | 1      | 2     | 2WU       | 5.00         | 28 | 560   |                                 | 59,136                       | 52,800                        |                              |                                | 72                 |                                 |    |
| <b>TOTAL FOR MAP NO. 2</b>                      |         |        |           |   |        |       |           | <b>5.00</b>  |    | <b>560</b>                                      |                                 | <b>59,136</b>                | <b>52,800</b>                 |                              |                                | <b>72</b>          |                                 |    |
| <b>TOTAL FOR PROJ NO. 2022CPT.06.15.10781.1</b> |         |        |           |   |        |       |           | <b>14.80</b> |    | <b>1,774</b>                                    | <b>1</b>                        | <b>162,824</b>               | <b>146,065</b>                | <b>435</b>                   | <b>960</b>                     | <b>2</b>           | <b>72</b>                       |    |
|   |         |        |           |   |        |       |           |              |    |   | <b>308,889</b>                  |                              | <b>74</b>                     |                              |                                |                    |                                 |    |
| <b>GRAND TOTAL</b>                              |         |        |           |   |        |       |           | <b>14.80</b> |    | <b>1,774</b>                                    | <b>1</b>                        | <b>162,824</b>               | <b>146,065</b>                | <b>435</b>                   | <b>960</b>                     | <b>2</b>           | <b>72</b>                       |    |
|   |         |        |           |   |        |       |           |              |    |   | <b>308,889</b>                  |                              | <b>74</b>                     |                              |                                |                    |                                 |    |

|   |         |        |           |   |        |       |           |              |    |                         | 4725000000-E            |                                  |                             |                   | 4810000000-E       |                               | 4890000000-E                | 4900000000-N                  |    |
|---|---------|--------|-----------|---|--------|-------|-----------|--------------|----|-------------------------|-------------------------|----------------------------------|-----------------------------|-------------------|--------------------|-------------------------------|-----------------------------|-------------------------------|----|
| PROJECT NO                                      | COUNTY  | MAP NO | ROUTE     | DESCRIPTION                             | TYP NO | LANES | LANE TYPE | LENGTH       |    | THERMO LT ARROW<br>90 M | THERMO RT<br>ARROW 90 M | THERMO<br>MERGE<br>ARROW 90<br>M | THERMO<br>STR ARROW<br>90 M | 4" WHITE<br>PAINT | 4" YELLOW<br>PAINT | 24" X 90 M<br>WHITE<br>THERMO | CRYSTAL<br>& RED<br>MARKERS | YELLOW &<br>YELLOW<br>MARKERS |    |
|   |         |        |           |   |        |       |           | MI           | FT |                         |                         |                                  |                             |                   |                    |                               |                             |                               | EA |
| 2022CPT.06.15.10781.1                           | Robeson | 1      | NC 71 - A | SCL (MP 2.33) TO MP 11.35               | 1      | 2     | 2WU       | 9.02         | 24 | 13                      | 5                       | 1                                |                             | 103,688           | 93,265             | 63.00                         | 60                          | 800                           |    |
|   |         | 1      | NC 71 - B | MP 11.35 TO MP 12.05                    | 1      | 2     | 2WU       | 0.70         | 35 | 15                      | 7                       | 3                                | 2                           |                   |                    |                               |                             |                               |    |
|   |         | 1      | NC 71 - C | MP 12.05 TO NC 211 (MP 12.13)           | 2      | 2     | 2WU       | 0.08         | 39 |                         |                         |                                  |                             |                   |                    |                               |                             |                               |    |
| <b>TOTAL FOR MAP NO. 1</b>                      |         |        |           |   |        |       |           | <b>9.80</b>  |    | <b>28</b>               | <b>12</b>               | <b>4</b>                         | <b>2</b>                    | <b>103,688</b>    | <b>93,265</b>      | <b>63.00</b>                  | <b>60</b>                   | <b>800</b>                    |    |
| 2022CPT.06.15.10781.1                           | Robeson | 2      | NC 41     | FROM CJ EAST OF SR 1004 TO<br>BLADEN CL | 1      | 2     | 2WU       | 5.00         | 28 |                         |                         |                                  |                             | 59,136            | 52,800             | 700.00                        |                             | 370                           |    |
| <b>TOTAL FOR MAP NO. 2</b>                      |         |        |           |   |        |       |           | <b>5.00</b>  |    |                         |                         |                                  |                             | <b>59,136</b>     | <b>52,800</b>      | <b>700</b>                    |                             | <b>370</b>                    |    |
| <b>TOTAL FOR PROJ NO. 2022CPT.06.15.10781.1</b> |         |        |           |   |        |       |           | <b>14.80</b> |    | <b>28</b>               | <b>12</b>               | <b>4</b>                         | <b>2</b>                    | <b>162,824</b>    | <b>146,065</b>     | <b>763</b>                    | <b>60</b>                   | <b>1,170</b>                  |    |
|   |         |        |           |   |        |       |           |              |    |                         | <b>46</b>               |                                  | <b>308,889</b>              |                   | <b>1,230</b>       |                               |                             |                               |    |
| <b>GRAND TOTAL</b>                              |         |        |           |   |        |       |           | <b>14.80</b> |    | <b>28</b>               | <b>12</b>               | <b>4</b>                         | <b>2</b>                    | <b>162,824</b>    | <b>146,065</b>     | <b>763</b>                    | <b>60</b>                   | <b>1,170</b>                  |    |
|   |         |        |           |   |        |       |           |              |    |                         | <b>46</b>               |                                  | <b>308,889</b>              |                   | <b>1,230</b>       |                               |                             |                               |    |